

# The Food System & Antibiotic Resistance

## The foundations of modern medicine

Antibiotics are precious medicines. For decades they've allowed us to cure infections that were once among the leading causes of death in the United States. Antibiotics also paved the way for medical advances including chemotherapy, surgical procedures, and organ transplants.

Increasingly though, antibiotics are no longer working.

**1.27 million**

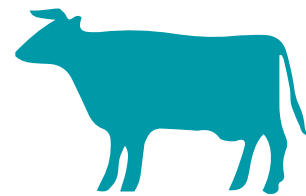
A new report released in The Lancet estimates that over 1.2 million people died globally in 2019 from antibiotic resistant infections<sup>1</sup>

**2050**

By 2050, drug resistant infections are expected to kill more people across the world every year than cancer kills today.<sup>2</sup>

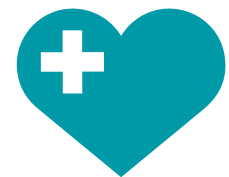
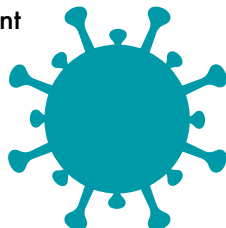
## Overuse is the problem

- 2 Nearly two-thirds of all medically important antibiotics sold in the United States are for use in livestock and poultry.
- 3



Antibiotics are often given to animals that aren't sick on a routine basis to prevent disease that can be common in unsanitary, stressful, and overcrowded conditions.

Overuse breeds resistant bacteria, which can spread off farms and into communities via food, workers, the food production chain, and through contaminated water and soil.<sup>3</sup>



People get sick with infections that are difficult, and sometimes impossible, to treat with current antibiotics.

## Antibiotic resistance and the food system: a timeline



<sup>1</sup> The Lancet. “Global burden of bacterial antimicrobial resistance in 2019: a systematic analysis.” Elsevier Ltd, 2021

<sup>2</sup> The Review on Antimicrobial Resistance, Antimicrobial Resistance: Tackling a crisis for the health and wealth of nations, December 2014, 5.

<sup>3</sup> Ibid.

<sup>4</sup> WHO. “WHO Guidelines on Use of Medically Important Antimicrobials in Food-Producing Animals.” Geneva: World Health Organization, 2017.

<sup>5</sup> Paulson, Jerome A., Theoklis E. Zaoutis, The Council on Environmental Health, and The Committee on Infectious Diseases. “Nontherapeutic Use of Antimicrobial Agents in Animal Agriculture: Implications for Pediatrics.” *Pediatrics* 136, no. 6 (December 1, 2015): e1670–77.

<sup>6</sup> Casey, Joan A., Frank C. Curriero, Sara E. Cosgrove, Keeve E. Nachman, and Brian S. Schwartz. “High-Density Livestock Operations, Crop Field Application of Manure, and Risk of Community-Associated Methicillin-Resistant *Staphylococcus Aureus* Infection in Pennsylvania.” *JAMA Internal Medicine* 173, no. 21 (November 25, 2013): 1980–90.

<sup>7</sup> “Antibiotic Resistance from the Farm to the Table | Food Safety | CDC,” October 25, 2018. <https://www.cdc.gov/foodsafety/challenges/from-farm-to-table.html>.

<sup>8</sup> United States Government Accountability Office, Food Safety: The Agricultural Use of Antibiotics and its Implications for Human Health, April 1999: p 1.

<sup>9</sup> Levy, Stuart B., George B. Fitzgerald, and Ann B. Macone. “Spread of Antibiotic-Resistant Plasmids from Chicken to Chicken and from Chicken to Man.” *Nature* 260, no. 5546 (March 1976): 40–42.